

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/P10

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 1 of 4

Complete if Known

Application Number	10/619,940
Filing Date	July 14, 2003
First Named Inventor	Michalicek, M.A.
Art Unit	2872 2873
Examiner Name	Unassigned E. LESTER
Attorney Docket Number	19930-001410

U.S. PATENT DOCUMENTS

Examiner	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number Kind Code ² (if known)			
	AA	4,330,175	05-18-1982	Yohji Fujii et al.	
	AB	5,212,582	05-18-1993	William E. Nelson	
	AC	5,279,924	01-18-1994	Keiji Sakai et al.	
	AD	5,414,540	05-09-95	Patel et al.	
	AE	5,497,262	03-05-1996	Toshiyuki Kaeriyama	
	AF	5,600,383	02-04-1997	Larry J. Hornbeck	
		5,734,492	03-31-1998	Byung-Hwa Chung	
	AG	5,917,625	06-29-1999	Ogusu et al.	
	AH	5,940,203	08-17-1999	Carlo F. LaFlandra	
	AI	5,960,133	09-28-1999	Tomlinson	
	AJ	5,999,288	12-07-1999	Georgios Nicos Ellinas et al.	
	AK	5,999,672	12-07-1999	Hunter et al.	
	AL	6,028,689	02-22-2000	Michalicek et al.	
	AM	6,040,935	03-21-2000	Michalicek	
	AN	6,097,519	08-01-2000	Ford	
	AO	6,097,859	08-01-2000	Solgaard	
	AP	6,097,863	08-01-2000	Dipakbin Qasem Chowdhury	
	AQ	6,108,471	08-22-2000	Zhang et al.	
	AR	6,128,122	10-03-2000	Drake et al.	
	AS	6,147,790	11-14-2000	Robert E. Meier et al.	
	AT	6,307,657 B1	10-23-2001	Joseph Earl Ford	
	AU	6,253,001 B1	06-26-2001	Storrs T. Hoen	
	AV	6,330,102B1	12-11-2001	Michael J. Daneman et al.	
	AW	6,337,760B1	01-08-2002	Andrew G. Huibers et al.	
	AX	2002/0039225 A1	04-04-2002	Robert E. Meier et al.	
	AY	2002/0118472 A1	08-29-2002	Edward A. Hill	

Examiner
Signature

Date
Considered

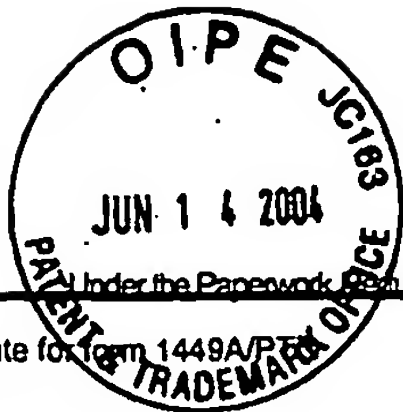
4-1-05

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

60235916 v1



PTO/SB/08A (10-01)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for Form 1449A/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet 2 of 4**Complete if Known**

Application Number	10/619,940
Filing Date	July 14, 2003
First Named Inventor	Michalick, M. A.
Art Unit	2872 2873
Examiner Name	Unassigned E. LESTER
Attorney Docket Number	19930-001410

U.S. PATENT DOCUMENTS

Examiner	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number Kind Code ² (if known)			
	AZ	2002/0135850 A1	09-2002	Hagelin et al.	
	BA	6,449,096 B1	09-10-2002	Larry Fabiny et al.	
	CA	2002/0149834 A1	10-2002	Mei et al.	
	CB	6,501,877 B1	12-31-2002	Robert T. Weverka et al.	
	CC	2003/0011863 A1	01-2003	Muller	
	CD	6,608,712 B2	08-19-2003	M. Adrian Michalick	

FOREIGN PATENT DOCUMENTS

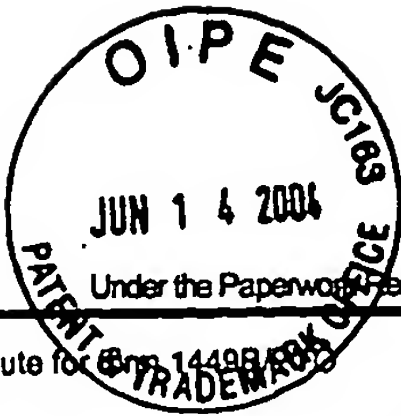
Examiner Initials*	Cite No. ¹	Foreign Patent Document		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ³	Number ⁴ Kind Code ⁵ (if known)				
	CE						

Examiner
SignatureDate
Considered

4-1-05

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 809. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231
60235916 v1



PTO/SB/08B (10-01)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for Form 1449B (Rev. 6/02)

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet 3 of 4**Complete if Known**

Application Number	10/619,940
Filing Date	July 14, 2003
First Named Inventor	Michalicek, M. A.
Art Unit	2872 2873
Examiner Name	Unassigned E. LESTER
Attorney Docket Number	19930-001410

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
EMJ	CF	T. Akiyama, et al.; "Controlled Stepwise Motion in Polysilicon Microstructures," Journal of Microelectromechanical Systems, Vol. 2, No. 3, September 1993; pp.106-110	
	CG	C.M.A. Ashruf, et al., "Galvanic porous silicon formation without external contacts," Sensors and Actuators 74 (1999) pp. 118-122	
	CH	Kenneth Bean, et al., "Anisotropic Etching of Silicon," IEEE Transactions on Electron Devices, Vol. Ed-25, No. 10, October 1978	
	CI	Dino R. Ciarlo, "A latching accelerometer fabricated by the anisotropic etching of (110) oriented silicon wafers," Lawrence Livermore Nat'l Laboratory, March 4, 1992	
	CJ	A.S. Dewa, et al., "Development of a Silicon Two-Axis Micromirror for an Optical CrossConnect," Solid State Sensors and Actuators Workshop, Hilton Head, South Carolina, pp. 93-96 NO DATE AVAILABLE	
	CK	Joseph Ford et al., "Wavelength Add Drop Switching Using Tilting Micromirrors," Journal of Lightwave Technology, Vol. 17, No. 5, May 1999	
	CL	J. Grade et al., "A Large-Deflection Electrostatic Actuator for Optical Switching Applications, Solid-State Sensor and Actuator Workshop, Hilton Head Island, South Carolina, June 4-8, 2000; pp. 97-100	
	CM	Robert E. Hopkins, <i>Some Thoughts On Lens Mounting</i> , Optical Engineering, September-October 1976, Vol. 15, No. 5, pgs. 428-430.	
	CN	V. Kaajakari et al.; "Ultrasonic Actuation for MEMS Dormancy-Related Stiction Reduction," In MEMS Reliability for Critical Applications, Proceedings of SAPIE Vol. 4180 (2000); pp. 60-65	
	CO	T.L. Koch et al., "Anisotropically etched deep gratings for InP/InGaAsP optical devices," J.App. Phys. 62 (8), 15 October 1987	
	CP	I. Nishi et al., "Broad-Passband-Width Optical Filter for Multi-Demultiplexer Using a Diffraction Grating and a Retroreflector Prism," Electronics Letters, Vol. 21, No. 10, 9 th May 1985	
	CQ	P. Phillippe et al., "Wavelength demultiplexer: using echelette gratings on silicon substrate," Applied Optics, Vol. 24, No. 7, 1 April 1985	
EMJ	CR	R. D. Rallison, White Paper on: <i>Dense Wavelength Division Multiplexing (DWDM) and the Dickson Grating</i> , January 6, 2001, 9 pages.	

Examiner
SignatureDate
Considered

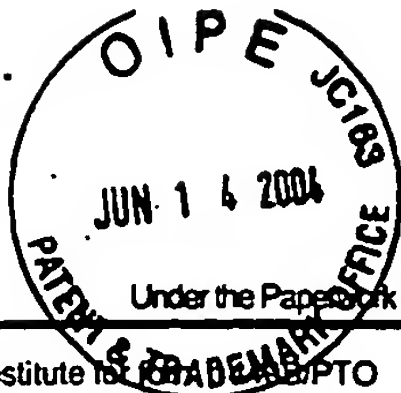
4-1-05

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

60235916 v1



PTO/SB/088 (10-01)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Complete if Known			
		Application Number	10/619,940		
		Filing Date	July 14, 2003		
		First Named Inventor	Michalick, M. A.		
		Art Unit	2872-2873		
		Examiner Name	Unassigned E. LESTER		
Sheet	4	of	4	Attorney Docket Number	19930-001410

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
EPL	CS	M. Schilling et al., "Deformation-free overgrowth of reactive ion beam etched submicron structures in InP by liquid phase epitaxy," Appl. Phys. Lett. 49 (12), 22 September 1986	
	CT	Z. J. Sun et al., Demultiplexer with 120 channels and 0.29-nm Channel Spacing," IEEE Photonics Technology Letters, Vol. 10, No. 1, January 1998	
	CU	W. Tang, et al., "Electrostatically Balanced Comb Drive for Controlled Levitation," Reprinted from Technical Digest IEEE Solid-State Sensor and Actuator Workshop, June 1990; pp. 198-202	
	CV	L. Torcheux et al., "Electrochemical Coupling Effects on the Corrosion of Silicon Samples in HF Solutions," J. Electrochem.Soc., Vol. 142, No. 6, June 1995	
	CW	P. VanKessel et al., "A MEMS-Based Projection Display," Proceedings of the IEEE, Vol. 86, No. 8, August 1998; pp. 1687-1704	
	CX	Microfabricated Silicon High Aspect Ratio Flexures for In-Plane Motion; dissertation by C. Keller, Fall 1998	
	CY	Gimballed Electrostatic Microactuators with Embedded Interconnects; dissertation by L. Muller; Spring 2000	
EPL	CZ	Transducer Elements, Piezo Systems, Inc., Cambridge MA, Catalog #3, 1998, pgs. 30-45.	

Examiner Signature		Date Considered	4-1-05
--------------------	--	-----------------	--------

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.
60235916 v1